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IN THE CLAIMS:

1. - 5. *cancelled*

6. *(previously presented)* A method for detecting total end-to-end loss of data packets in a packet network, comprising the steps of:

generating a test signal at a source end point coupled to the packet network, the test signal having a predefined pattern of variation in average power level;

transmitting the test signal over the packet network to a destination end point coupled to the packet network;

recording the modified test signal at the destination end point;

examining the modified test signal to detect irregularities using the predefined pattern of variation as a standard;

determining whether the irregularities in the recorded signal represent packet loss;

calculating an expected power value for each segment in the repeating sections of the test signal;

comparing a difference between the power level of a segment and its expected power level against a threshold;

wherein the test signal includes repeating sections, the sections further including a number of segments, the length of each segment equal to the smallest packet size in the packet network;

wherein the lengths of the repeating sections are greater than the largest packet size in the packet network;

wherein the average power level of each segment is detectably different from average power levels of each of the other segments in a given section;

wherein the segment length is set to optimize an amount of data bits included in a packet taking into account in-network delay, and the section length is equal to four times the segment length;

wherein if the difference is greater than the threshold, packet loss is detected.

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7. *(original)* The method of claim 6, wherein the source end point and the destination end point are end points of a telephone network, and the telephone network is coupled to the packet network through gateway nodes.

8. *(original)* The method of claim 7, wherein the test signal is one of a 1004 Hz tone signal and a composite source signal.

9. *(original)* The method of claim 7, further comprising:
encoding the test signal before transmission to the destination end point using a voice codec.

10. *(original)* The method of claim 9, wherein the codec is G.711.

11. *(original)* The method of claim 6, further comprising:
determining whether burst packet loss has altered the alignment of the recorded signal; and
realigning the recorded signal to correct for any alteration.

12. *(original)* The method of claim 6, further comprising:
generating a small sample of the original signal at the destination end point according to a shared algorithm;
correlating the recorded signal with the sample to calculate a delay; and
compensating the recorded signal for the calculated delay.

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13. *(original)* The method of claim 6, wherein the step of calculating the expected power level of a segment includes:

- selecting a sample of repeating sections from a recorded signal;
- classifying segments within a section in groups with corresponding segments from the remaining selected sections; and
- determining the median values for each group, the median value being identified as the expected power level for the segment group.

14. - 22. *cancelled*